Digital Infrastructure
INSTITUTE

COMMUNITY INFORMATION SHEET · CONNECTIVITY

How far we've come — speed and bandwidth, then and now

From an hour per song to a movie in seconds: the growth story behind every cable in this series

The key idea: twenty thousand times faster in one working life

In the mid-1990s an Australian home connected at **56 kilobits per second**, when the modem's squeal finished and nobody picked up the phone. Today a gigabit home connection is ordinary: nearly **twenty thousand times faster**, within a single working career. Understanding that curve, which hasn't stopped, explains almost everything else in this series: why new cables, towers and data centres keep being proposed.

The fixed-line journey

Dial-up (1990s): 56 kbps. A single song took the best part of an hour and the internet used the phone line. **ADSL (2000s):** broadband arrived at a few megabits, later ~20: always on and the phone worked too. **The NBN era:** 25 to 100 megabits became the household norm, with gigabit plans now available on fibre. A movie that would have taken **days** on dial-up arrives in **seconds**. Behind the scenes, the fibre backbones connecting cities moved from gigabits to **terabits**: thousands of times the capacity again.

The wireless journey

Mobile followed the same curve: **2G** (1990s) carried calls and texts at speeds too slow for the web; **3G** put a usable internet in your pocket at a few megabits; **4G** made mobile video normal at tens to hundreds of megabits; **5G** reaches gigabit-class speeds. Each generation didn't just get faster. It changed what phones *were*. (Sheet 14 explains what changes between the Gs.)

Under the sea, the same story, louder

Australia's first international telephone cable, laid in the 1960s, carried **80 simultaneous calls** and was a national event. The Southern Cross cable of 2000 carried a then-astonishing 120 gigabits per second. Today's new systems, like the SMAP route between the capitals, are measured in **hundreds of terabits per second**: a single modern cable can carry many times the entire world's international internet traffic of 2000.

Why it never stops

Every leap in capacity was consumed by uses nobody planned for: web, then streaming, then cloud, now AI. Demand has compounded for thirty years and is still growing, which is why connectivity infrastructure is never "finished" and why a proposal near you is rarely about today's needs. The honest question isn't whether we'll use the capacity (history answers that) but whether each project is well sited, well planned and fairly shared. That's what the rest of this series is for.

What the history teaches

- Capacity claims should be judged against the next decade's demand, not today's.
- Every generation of "surely that's enough" has been wrong; plan infrastructure corridors once, generously.
- Speed alone isn't the story: reliability and route diversity matter as much as headline numbers.
- The curve runs on physical things (cables, towers, land) hosted by real communities who deserve a fair share of the value.

Questions to ask

Is this project sized for future demand or just today's? What does it actually change for local speeds and reliability? If capacity keeps compounding, what follows this project and is that being planned openly?

Want to know more? Sheets 01, 02, 06 and 14 of this series cover why connectivity matters, subsea cables, bandwidth and mobile networks. The ACCC publishes real measured broadband speeds for Australia. This sheet is general information, not legal or planning advice; a specific proposal is confirmed by qualified assessment.